FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

Arm Reaches Beyond Chips Into The Internet Of Things

Simon Segars has a “connected” bed. Using sensors that feed information to a smartphone, it measures how well he sleeps and whether his mattress should be firmer or softer.

It is part of the emerging “internet of things” market into which the chief executive of FTSE 100 chip designer Arm Holdings Mr Segars is looking to expand.

With a market capitalisation of about £13bn, Arm is one of the UK’s only large global tech companies. It sells licences for chip designs to manufacturers, which pay royalties on each unit shipped.

The company’s components are used in more than 95 per cent of smartphones. But with smartphone sales beginning to slow globally, Mr Segars, an electronic engineer, has stepped up investment in other markets. He is attempting to shift Arm’s focus to new software for businesses and connected devices — the internet of things.

ARM buys Apical

ARM has acquired embedded vision specialist Apical for $350 million in cash,

The acquisition supports ARM’s long term growth strategy by enabling new imaging products for next generation vehicles, security systems, robotics, mobile and any consumer, smart building, industrial or retail application where intelligent image processing is needed. Apical’s technology will complement the ARM® Mali™ graphics, display and video processor roadmap with products including:

Spirit: A power-efficient computer vision technology, Spirit gives ARM and its partners the ability to address opportunities anywhere that advanced image computing can deliver innovation. It comprises dedicated silicon IP blocks that deliver an on-chip computer vision capability by converting raw sensor data or video into a machine-readable representation of an image.

Broadcom Announces Industry’s First 60GHz Wireless Mesh Solution for Wireless Infrastructure

SAN JOSE, Calif., and SINGAPORE, May 23, 2016 (GLOBE NEWSWIRE) -- Broadcom Limited (NASDAQ:AVGO), a leading designer, developer and global supplier of a broad range of analog and digital semiconductor connectivity solutions, today announced the industry’s first 60GHz wireless mesh (60G WiMesh) chipset solution designed for wireless infrastructure applications including mobile backhaul and wireless access points. The chipset consists of a BCM20130 baseband SoC and a BCM20138 RF transceiver chip, both of which are implemented in standard CMOS process. Based on

innovative steerable beamforming technology, the chipset provides a highly robust, cost-effective 60GHz wireless solution addressing the “last-mile problem” for wireless infrastructure.

Broadcom’s unique 60G WiMesh technology enables a baseband SoC to connect to multiple RF transceiver chips, supporting large phased array antennae to extend data transmission range. The solution can also employ a custom time division duplex (TDD) protocol to facilitate long range point-to-multipoint links to enable a robust wireless mesh network. Compared with other 60GHz wireless solutions on the market, which are either short range or expensive, the Broadcom® 60G WiMesh solution does not need high gain fixed antennae and allows the formation of a self-organizing, community-based wireless mesh network in the 60GHz spectrum, which minimizes equipment and infrastructure costs and provides a highly efficient, high bandwidth data delivery for mobile backhaul.

Honeywell To Take On IIoT With New Business Unit

Honeywell Process Solutions (HPS) is strengthening its participation in the Industrial Internet of Things (IIoT) market by creating a new business unit dedicated to the IIoT. The new Honeywell Digital Transformation business will be headed by Andrew Hird, a 13-year Honeywell veteran, as VP and GM. The intent of the new business unit is to bring together the existing expertise and products that HPS has developed for network-enabled process control to help customers address the challenges of connecting individual sites into wider networks.

The move to create the new business unit reflects growing interest on the part of industry to gain the increased efficiency and productivity that the IIoT promises. "More and more customers are feeling the pain of a sluggish economy," said Hird, "and have a need to become more productive and efficient." As a result, Hird added, the resistance to the IIoT that industry was expressing over the last two to three years has faded. "The IIoT is now at a tipping point. Customers need it to solve the problems of coordinating geographically disparate resources to make gains in productivity and quality. Their resistance is gone. Now they're dragging us into this."

Lattice Bridge IC Brings Mobile Display Interfaces To Industrial Apps

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Essentially, the device, called CrossLink, is a video interface bridge with a fast MIPI D-PHY capability that delivers up to 4K ultra-HD resolution at 12Gbit/s bandwidth.

Protocols supported include MIPI D-PHY, MIPI CSI-2, MIPI DSI, MIPI DPI, CMOS, SubLVDS and LVDS. Package size can be as small as 6mm square.

The chip can multiplex, merge and arbitrate between multiple image sensors to a single input. The device can also interface between high-end industrial and lower specification A/V image sensors with mobile application processors.

Micrium RTOS Ported To Ensilica Processor Cores

EnSilica and Micrium have got together to port Micrium's µC/OS-III RTOS to EnSilica's family of eSi-RISC processor cores.

"Our partnership with Micrium to port µC/OS-III to eSi-RISC, significantly strengthens and further broadens the overall eSi-RISC ecosystem," says EnSilica CEO Ian Lankshear.

Micrium's µC/OS-III is a pre-emptive and deterministic multi-tasking RTOS with optional round-robin scheduling.

It is scalable, capable of supporting unlimited application tasks and kernel objects, and also portable, being delivered with complete source code and in-depth documentation.

It is resource efficient as the kernel's memory footprint can be scaled down to contain only the features required for the application, typically 6–24 KBytes of code space and 1 KByte of data space.

Nokia Sales Slide 9% In First Quarter

Sales at Nokia slumped 9 per cent in the first quarter following its acquisition of Alcatel-Lucent, as the Finnish telecoms equipment group warned about challenging conditions in its core mobile telecoms market.

Shares in the company fell more than 7 per cent, even though Nokia posted a more optimistic picture across the group and said that the integration with Alcatel was faring better than had been expected.

Net sales dropped 9 per cent in the first quarter to €5.6bn, and the company warned that mobile network equipment revenues would continue to decline later this year as customers wait until it has completed the integration of rival Alcatel-Lucent.

Qualcomm Will Make China-Customized Chips Through Chinese Venture

Qualcomm Inc. expects to start making some chips for the China market next year through a Chinese government-owned venture, in an example of how U.S. tech companies are localizing products as Beijing tightens control of technology within its borders.

The customized chips will go into servers, the hardware for running websites, storing companies' data and powering data centers. For Qualcomm, the world's leading supplier of smartphone chips, servers are a new growth initiative as demand in the smartphone market softens.

Qualcomm President Derek Aberle said his company set up a joint-venture with China's Guizhou province last year partly because he expects China's server demand to eventually eclipse that of the U.S. While Western companies have long licensed older

technology to Chinese counterparts, Mr. Aberle said the China venture is more central to Qualcomm's plans.

Samsung Delivers 20mm X 16mm X 1.5mm 512GB SSD

Samsung says it has begun mass producing the industry's first NVMe PCIe solid state drive (SSD) in a single BGA package.

The new BGA NVMe SSD, named PM971-NVMe, contains all essential SSD components including NAND flash memory, DRAM and controller while delivering outstanding performance.

"Samsung's new BGA NVMe SSD triples the performance of a typical SATA SSD, in the smallest form factor available, with storage capacity reaching up to 512GB," says Samsung so Jung-bae Lee, "the introduction of this small-scale SSD will help global PC companies to make timely launches of slimmer, more stylish computing devices, while offering consumers a more satisfactory computing environment."

Configuring the PM971-NVMe SSD in a single BGA package was enabled by combining 16 of Samsung's 48-layer 256Gb V-NAND flash chips, one 20-nanometer 4Gb LPDDR4 mobile DRAM chip and a high-performance Samsung controller.

Synopsys Selected As Primary Emulation Provider For NXP Semiconductors

MOUNTAIN VIEW, Calif., June 6, 2016 /PRNewswire/ Synopsys, Inc. (Nasdaq:SNPS) today announced that NXP Semiconductors has selected Synopsys as its primary emulation solution provider. Synopsys' emulation solution provides NXP with 4X faster emulation performance, enabling NXP software teams to run more pre-silicon software testing and achieve aggressive software delivery schedules. Synopsys' emulation solution has enabled NXP to significantly accelerate customer software enablement for several key NXP processor products.

"Software content is growing exponentially and semiconductor vendors must deliver higher quality software sooner in the development process," said Richard House, vice president of Software and Solutions Engineering for NXP's Digital Networking business unit. "Synopsys' emulation solution enables us to run more pre-silicon software testing than ever before, helping us bring up software on first silicon quickly and ship software to customers as early as possible."

Industry News & Trends

Next-Gen Cellular Tech To Carve Smooth Path For 5G

The call for a more advanced communication technology is getting louder. Engineers have been all ears and have now officially started work on a novel way to connect base stations and data centres that could allow lower cost, more flexible cellular networks, including innovative 5G capabilities. IEEE 1914 will clear a road for carriers to deploy hundreds of antennas in field sites and process signals from them on central pools of low cost servers.

The Next-Generation Fronthaul Interface (NGFI) will use Ethernet to handle quality of service, synchronisation and data security. The standard will help coordinate multiple RF streams so carriers can deploy massive MIMO antennas and cloud radio access networks (C-RAN).

3D Printing Makes Mock-Ups In Minutes

The combination of a modified commercial printer and some clever software, is makes a physical wire-frame model of the article which is strong enough to be handled.

It is an improved version of a system called 'WirePrint', originally developed by the lab of François Guimbretière, who was on the team for the new printer, and the Hasso Platner Institute in Germany.

Unlike conventional 3D printing where a print head builds up an object layer-by-layer, WirePrint has a nozzle which extrudes a rope of quick-hardening plastic to create a wire frame structure which represents the surface of an object in a CAD file.

ITRI Develops Foldable Display

A foldable display has been invented by a government research establishment in Taiwan, reports Digitimes.

Foldable displays have been seen as a Holy Grail for the mobile device industry and a route to kick-starting handset growth which has been stagnating.

The technology is based on AMOLED technology and it has been developed by a branch of Taiwan's ITRI (Iindustrial Technology Research Institute) called the Display Technology Centre (DTV).

It is reported that the DTC's display folds 'inwardly and outwardly'.

The intention is to transfer the technology to Chunghwa Picture Tubes in Q4 2016 for initial trial production in 2017.

3D Printing Using Stem Cells? Israeli Company Runs Successful Lab Tests

Nano Dimension, an Israeli company that is a leader in 3D-printed electronics, announced this week that it has run a series of successful lab tests on a new 3D bioprinter capable of using stem cells. Conducted in partnership with the Israeli stem cell research company Accellta, Nano Dimension's recent experiment represents a dramatic shift from

its typical focus on electronics such as circuit boards and nanotechnology-based inks. Prior work notwithstanding, Nano's recent innovation is wildly groundbreaking, however outside its wheelhouse it actually is.

In light of their collaborative effort, Nano Dimension and Accellta may potentially start a new venture devoted entirely to further research on 3D printing using stem cells. Accellta would bring its incredibly deep well of stem cell research — including a suspension-based cell culturing system that produces billions of stem cells — while Nano Dimension would, obviously, contribute its cutting-edge 3D printing technology. The partnership would allow for what would likely be a significant step forward in the ongoing study of bioprinting human organs and tissue.

East European News & Trends

Diamond MEMS Resonator Surpasses 20ghz Speed

The Russians are harnessing the piezoelectric effect on diamond substrates for microelectromechanical systems (MEMS) semiconductors. Claiming a new world's record in the microwave regime, their faster-than-silicon piezoelectric "acoustic wave" resonators have been successfully modelled for super-sensitive sensors, according to the Moscow Institute of Physics and Technology (MIPT).

The breakthrough claimed by the Technology Institute for Superhard and Novel Carbon Materials (TISNCM) in conjunction with the Siberian Federal University, is diamond substrate MEMS resonators whose speed exceeds 20GHz while maintaining a quality factor (Q) over 2,000. Such performance could be used not only just to produce high-speed clocking signals, but to create ultra-sensitive surface- and bulk-acoustic (SAW/BAW) wave resonators for biosensors that could detect near single bacteria and other nanoscale-quantities of toxic agents.

Russian Auto Sales Fall To 10-Year Low

MOSCOW: New car sales in Russia fell 8.5 percent year-on-year in April to their lowest level in 10 years, the Association of European Businesses (AEB) lobby group said on Thursday.

Sales in April totalled 121,272 vehicles after falling 10 percent in March, the AEB said in a statement.

"Total market performance continues to make steady, although painfully slow progress towards finding its bottom in terms of year-on-year trend," said Joerg Schreiber, chairman of the AEB Automobile Manufacturers Committee.

"Absolute sales volume has fallen to the lowest level in 10 years," he said.

Intel Buys Computer Vision Specialist Itseez

Intel Corp., moving to bolster its technology for use in cars and other new markets for the company, said it is acquiring a Russian company called Itseez that specializes in computer vision.

Financial terms weren’t disclosed.

Intel, long known for chips used in personal computers, is reacting to the downturn in the PC business by emphasizing markets that include the Internet of Things, or IoT—a catchall term for embedding sensing, computing and communication capabilities in everyday products, including wearable devices, home-automation gear and in-store signage.

World Economic Round Up

Brazil's economy contracted 5.4 percent in the first quarter from a year earlier, highlighting the challenge facing interim president Michel Temer as he tries to end the country's worst recession in more than a century. The figures were better, however, than analysts had expected, while the quarter-on-quarter decline was 0.3 percent compared with a consensus estimate of 0.8 percent. The manufacturing sector is showing signs of firming, another indication the economy may be on its way to stronger second-quarter growth after a weak first quarter.

The latest economic news by country to include USA, Europe, UK, Japan, China, Asia Pacific and India can be found each month in our Semiconductor Monthly Report.

Industry Events 2016

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – 14th November 2016
- Industry Forecast Briefing, London – 20th September 2016

To book your place on any of our events please contact us on:

Telephone: +44 1732 740440
Email: mail@futurehorizons.com

Download Future Horizons Full Events Calendar Here

Industry Events

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP
MONDAY 14th MOVEMBER 2016
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 20th SEPTEMBER 2016

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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